

**CLAIMS**

1. An electrical muscle stimulator comprising:  
means for generating a predetermined stimulating signal, and  
means for applying the signal to a muscle,  
wherein the signal comprises a series of regularly spaced bursts of pulses with each burst including a first component as a first continuous train of regularly spaced pulses and a second component as a series of regularly spaced second trains of regularly spaced pulses, the second component being combined with the first component and the spacing between successive pulses in the second pulse trains being less than the spacing between successive pulses in the first pulse train.
2. A stimulator as claimed in claim 1, wherein each burst of pulses includes a third component as a series of regularly spaced third trains of regularly spaced pulses, the third component being combined with the first and second components, and the spacing between successive pulses in the third pulse trains being less than the spacing between successive pulses in the second pulse trains.
3. A stimulator as claimed in claim 2, wherein each burst of pulses consists of the same number of second and third pulse trains.
4. A stimulator according to claim 3, wherein each third pulse train immediately precedes a respective second pulse train.
5. A stimulator as claimed in claim 2, wherein each third train consists of two pulses.
6. A stimulator as claimed in claim 3, wherein each third train consists of two pulses.

7. A stimulator as claimed in claim 4, wherein each third train consists of two pulses.

8. A stimulator as claimed in claim 2, wherein the first train consists of pulses at 500 milliseconds intervals, each second train consists of pulses at 20 milliseconds intervals, and each third train consists of pulses of intervals of 12 milliseconds or less.

9. A stimulator as claimed in claim 8, wherein each second of the pulse train consists of pulses timed at 0, 8, 20, 40, 60, 80, 100 and 500 milliseconds.

10. A stimulator as claimed in claim 8, wherein each second of the pulse train consists of pulses timed at 0, 8, 28, 48, 68, 88, 108 and 500 milliseconds.

11. A stimulator as claimed in claim 1, comprising a battery powered hand-held unit with a single input/output connector, a battery charger, an electrode connector, and a computer connection cable, the battery charger, electrode connection and computer connection cable each being adapted to be connected to the single input/output connector such that the electrode connector cannot be connected to the hand-held unit if the hand-held unit is connected either to the battery charger or the computer connection cable.

12. A stimulator as claimed in claim 1, comprising means for enabling a user to adjust the amplitude of the pulses.

13. A stimulator as claimed in claim 11, the hand-held unit comprising programmable means which can be controlled by computer-generated signals applied to the single input/output connector to adjust the width of the pulses.

14. A stimulator as claimed in claim 11, the hand-held unit comprising means for storing patient treatment records data.

15. A stimulator as claimed in claim 14, comprising means for outputting patient treatment records data to the single input/output connector.

16. A method for electrically stimulating a muscle in which a stimulating signal is applied to the muscle, comprising:

a) generating the stimulating signal, the signal comprising a series of regularly spaced bursts of pulses with each burst including:

(i) a first component as a first continuous train of regularly spaced pulses, and

(ii) a second component as a series of regularly spaced pulses, wherein the second component is combined with the first component and the spacing between successive pulses in the second pulse trains is less than the spacing between the successive pulses in the first train, and

b) applying the stimulating signal to the muscle.